

5       **METHODS AND COMPOSITIONS FOR TREATING CONDITIONS OF THE**  
          **CENTRAL AND PERIPHERAL NERVOUS SYSTEMS**  
          **USING NON-SYNAPTIC MECHANISMS**

10                               **Abstract of the Disclosure**

          The present invention relates to methods and compositions for treating selected  
conditions of the central and peripheral nervous systems employing non-synaptic  
mechanisms. More specifically, one aspect of the present invention relates to methods  
15   and materials for treating seizure and seizure disorders, epilepsy, status epilepticus,  
migraine, spreading depression, intracranial hypertension; for treating the  
pathophysiological effects of head trauma, stroke, ischemia and hypoxia; for treating or  
protecting from the pathophysiological effects of neurotoxic agents such as ethanol; and  
for treating neurophysiatric disorders and central nervous system edema by  
20   administering agents that modulate ionic concentrations and/or ionic gradients in the  
brain, particularly ion-dependent or cation-chloride cotransporter antagonists. Electrolyte  
cotransport antagonists and combinations of such compositions with other agents for  
treating various conditions are disclosed. The present invention also relates to methods  
and compositions for treating pain by administering ion-dependent cotransporter  
25   antagonists. Methods and compositions for enhancing cortical function, for example, in  
centers of cognition, learning and memory, by administering ion-dependent cotransporter  
agonists are disclosed.